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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/630,583

07/29/2003

Kristopher J. Frutschy

042390P16902

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06/28/2004

Stephen M. De Klerk  
BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP  
Seventh Floor  
12400 Wilshire Boulevard  
Los Angeles, CA 90025-1026

EXAMINER

LE, THANH TAM T

ART UNIT

PAPER NUMBER

2839

DATE MAILED: 06/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/630,583	<b>Applicant(s)</b> FRUTSCHY, KRISTOPHER J.	
	<b>Examiner</b> Thanh-Tam T. Le	<b>Art Unit</b> 2839	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 July 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 14-16 is/are allowed.
- 6) ☒ Claim(s) 1-3 and 8-10 is/are rejected.
- 7) ☒ Claim(s) 4-7 and 11-13 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3 and 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murphy et al. (5,702,255) in view of Arisaka (5,102,352).

Regarding claims 1 and 10, Murphy et al., figures 2-4, disclose a socket for a microelectronic component, comprising:

- a socket body (24) having a horizontal base with upper and lower substantially horizontal sides, and side walls extending upward from the base, the side walls having inner surfaces jointly defining a recessed formation receiving the microelectronic component;
- a plurality of contacts (49) on the socket body at the upper horizontal side, spaced from one another for making contact with corresponding lands of the microelectronic component;
- a plurality of terminal (38) on the socket body at the lower horizontal side, spaced from one another for connecting to corresponding connections on a carrier substrate (16) and
- a plurality of interconnection elements (44) in the socket body, each extending and interconnecting a respective contact with a respective terminal.

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Murphy et al. disclose the instant claimed invention as described above except for at least a first set of the interconnection elements all being electrically connected to a first metal portion.

Arisaka, figure 2, discloses a high frequency electrical connector comprising a laminated board assembly (10) having a conductive layer (14) that connects to the socket pin (21, column 3, lines 25-30). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Murphy et al. to have the conductive layer and the socket pin, as taught by Arisaka, in order to make an electrical connection between the socket pin and the circuit board.

Regarding claim 2, it is noted that Arisaka, figure 2, discloses a protrusion on each interconnection element, the interconnection element being inserted into an opening in the socket body until the protrusion is in contact with the first metal portion.

Regarding claim 3, it is noted that Arisaka, figure 2, discloses a stop component on the interconnection element to limit how far the interconnection element is inserted into the opening and to ensure that the protrusion is in line with the metal portion.

Regarding claim 8, Murphy et al., figure 4, disclose a plurality of spring components (48) on the interconnection element, each contact being on a respective spring component.

Regarding claim 9, Murphy et al., figure 4, disclose a plurality of solder balls (38) on the interconnection element, each terminal being on a respective solder ball.

***Allowable Subject Matter***

3. Claims 14-16 are allowed.
4. Claims 4-7 and 11-13 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
5. The following is an examiner's statement of reasons for allowance:

None of the reference discloses a ground set of the interconnection elements all being electrically connected to a ground metal portion, and a signal set each being electrically disconnected from both the power metal portion and the ground metal portion, in combination with the other claimed elements of the embodiments recited.

6. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."


***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh-Tam T. Le whose telephone number is 571-272-2094. The examiner can normally be reached on 7:30-5:00.
8. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn Feild can be reached on 571-272-2092. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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9. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TL.  
06/24/2004.

  
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T. Le